

## **SAT Mathematics-Grade 11-Specifications**

### **Total Math Questions: 54**

- Multiple Choice: 44
- Student-Produced Responses: 10

#### **1. Number and Operation (11-13 questions / 20-25% of test)**

- Arithmetic word problems (including percent, ratio, and proportion)
- Properties of integers (even, odd, prime numbers, divisibility, etc.)
- Rational numbers
- Logical reasoning
- Sets (union, intersection, elements)
- Counting techniques
- Sequences and series (including exponential growth)
- Elementary number theory

#### **2. Algebra and Functions (19-21 questions / 35-40% of test)**

- Substitution and simplifying algebraic expressions
- Properties of exponents
- Algebraic word problems
- Solutions of linear equations and inequalities
- Systems of equations and inequalities
- Quadratic equations
- Rational and radical equations
- Equations of lines
- Absolute value
- Direct and inverse variation
- Concepts of algebraic functions
- Newly defined symbols based on commonly used operations

#### **3. Geometry and Measurement (14-16 questions / 25-30% of test)**

- Area and perimeter of a polygon
- Area and circumference of a circle
- Volume of a box, cube, and cylinder
- Pythagorean Theorem and special properties of isosceles, equilateral, and right triangles
- Properties of parallel and perpendicular lines
- Coordinate geometry
- Geometric visualization
- Slope
- Similarity
- Transformations

#### **4. Data Analysis, Statistics, and Probability (6-7 questions / 10-15% of test)**

- Data interpretation
- Statistics (mean, median, and mode)
- Probability

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